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one or more of the area routers, then the RQ determines that all shortest paths between the specified origin and the destination address lie within the area. An exemplary identification of shortest paths within an area can be found in FIG. 10. For example, referring to FIG. 10, if the specified destination address is as shown in box 73, i.e., 133.40.15.7. In this case, step 114 of FIG. 9 above would return two shortest paths, namely, **74-76-75-73** and **74-76-79-73**. Since the address associated with box 73 is "local", i.e., both router 75 and router 79 are connected to subnet 133.40.15.0/24, the query process would stop there and those two paths would be returned.

Replace paragraph 81 with the following paragraph:

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[0081] Because destination 90 is not local to area 70, the shortest path **76-82** needs to be extended out of area 70. Note that since it is the only possible shortest path, there is no need to identify which shortest path is to be extended. The next step identifies area 71 as the area in which the shortest path needs to be extended, and router 82 represents the "origin" in area 71 from which the extension needs to be performed. The path extension carried out in area 71 follows the same set of steps as those carried out when computing shortest paths within area 70. It starts with a Route Query that identifies the route entry associated with the destination address 90 134.34.21.142 in area 72. The route query again returns 134.34.21.0/24 and identifies router 94 as being able to reach the destination. The next step consists of computing a shortest path between routers 82 and 94 through area 71. This returns one shortest path **82-96-94** with a distance (in area 71) of two. When concatenated with the initial shortest path segment (**76-82**) computed in area 70, this returns an extended path segment **76-82-96-94** with a total distance of three. Because destination 90 is still not local to area 71 the path extension process needs to be again repeated for the next area, area 72. This eventually completes by returning the end-to-end path **76-82-96-94-98-99** that has a total distance of five.
